

SEQUENCE LISTING

<110> Huang, Ning
Hwang, Yong-Sic
Yang, Daichang
Schmidt, Robert J.

<120> Plant Transcription Factors and Enhanced
Gene Expression

<130> 0665-0018.30

<140> Not Yet Assigned
<141> Filed Herewith

<150> US 60/201,182
<151> 2000-05-02

<150> US 60/266,920
<151> 2001-02-06

<160> 35

<170> FastSEQ for Windows Version 4.0

<210> 1
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> primer

<400> 1
ctgatatgtg cccatgttcc aaac

24

<210> 2
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> primer

<400> 2
ccttgctgaa tgcagatgtt tcac

24

<210> 3
<211> 27
<212> DNA
<213> Artificial Sequence

<220>
<223> primer

<400> 3

gtagtctgc agtgtaagtg tagcttc

27

<210> 4

<211> 29

<212> DNA

<213> Artificial Sequence

<220>

<223> primer

<400> 4

atggttgtct agattttgtg ggactgaac

29

<210> 5

<211> 32

<212> DNA

<213> Artificial Sequence

<220>

<223> primer

<400> 5

acagacagct gcagagatat ggattttcta ag

32

<210> 6

<211> 33

<212> DNA

<213> Artificial Sequence

<220>

<223> primer

<400> 6

ggaactctct agagctatct gtacttgctt atg

33

<210> 7

<211> 27

<212> DNA

<213> Artificial Sequence

<220>

<223> primer

<400> 7

tccgagctgc agtaatggat acctagt

27

<210> 8

<211> 27

<212> DNA

<213> Artificial Sequence

<220>

<223> primer

<400> 8

gtagtttcta gagctattag cagttgc

27

<210> 9
<211> 27
<212> DNA
<213> Artificial Sequence

<220>
<223> primer

<400> 9
cggtgctgca gatgggttgg gaaccct

27

<210> 10
<211> 28
<212> DNA
<213> Artificial Sequence

<220>
<223> primer

<400> 10
atgatctaga ttgctctggg acatagat

28

<210> 11
<211> 27
<212> DNA
<213> Artificial Sequence

<220>
<223> primer

<400> 11
aattcctgca gcatcggctt aggtgta

27

<210> 12
<211> 27
<212> DNA
<213> Artificial Sequence

<220>
<223> primer

<400> 12
tgatctagat tgttggttga ttctact

27

<210> 13
<211> 29
<212> DNA
<213> Artificial Sequence

<220>
<223> primer

<400> 13
ggcgctgca gggaggagag gggagagat

29

<210> 14
<211> 29

<212> DNA
<213> Artificial Sequence

<220>
<223> primer

<400> 14
accttgctct agattgatga tcaatcaga

29

<210> 15
<211> 31
<212> DNA
<213> Artificial Sequence

<220>
<223> primer

<400> 15
cgctgctctt gcaggccagg gaaagacaat g

31

<210> 16
<211> 29
<212> DNA
<213> Artificial Sequence

<220>
<223> primer

<400> 16
cgcttatcta gatcagtgaa ctgtcagtg

29

<210> 17
<211> 27
<212> DNA
<213> Artificial Sequence

<220>
<223> primer

<400> 17
ttctgggatc caagatgcct accgagg

27

<210> 18
<211> 27
<212> DNA
<213> Artificial Sequence

<220>
<223> primer

<400> 18
ggggtcggat ccgagatggg catggac

27

<210> 19
<211> 28
<212> DNA
<213> Artificial Sequence

<220>
<223> primer

<400> 19
agtggggatc ctaagccgag gccgcaac

28

<210> 20
<211> 28
<212> DNA
<213> Artificial Sequence

<220>
<223> primer

<400> 20
gctaggggat cctggtgcat aggtagca

28

<210> 21
<211> 19
<212> DNA
<213> Artificial Sequence

<220>
<223> primer

<400> 21
cggcaacagg attcaatct

19

<210> 22
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> primer

<400> 22
ccatccaatc caatccactc caac

24

<210> 23
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> primer

<400> 23
aggcgattaa gttgggtaac g

21

<210> 24
<211> 24
<212> DNA
<213> Artificial Sequence

<220>

<223> primer

<400> 24

cctagccaaa gtcttcgagc ggtg

24

<210> 25

<211> 18

<212> DNA

<213> Artificial Sequence

<220>

<223> primer

<400> 25

gcgatgttgt cttgcagc

18

<210> 26

<211> 779

<212> DNA

<213> *Oryza sativa*

<400> 26

ttctgtagta	cagacaaaac	taaaagtaat	gaaagaagat	gtggtgttag	aaaaggaaac	60
aatatcatga	gtaatgtgtg	agcattatgg	gaccacgaaa	taaaaagaac	atdddgatga	120
gtcgtgtatc	ctcgatgagc	ctcaaaagtt	ctctcaccoc	ggataagaaa	cccttaagca	180
atgtgcaaag	tttgcatctt	ccactgacat	aatgcaaaat	aagatatcat	cgatgacata	240
gcaactcatg	catcatatca	tgcctctctc	aacctattca	ttcctactca	tctacataag	300
tatcttcagc	taaatggttag	aacataaaac	cataagtcac	gtttgatgag	tattaggcgt	360
gacacatgac	aaatcacaga	ctcaagcaag	ataaagcaaa	atgatgtgta	cataaaactc	420
cagagctata	tgtcatattg	caaaaagagg	agagcttata	agacaaggca	tgactcacia	480
aaattcactt	gcctttcgtg	tcaaaaagag	gagggtctta	cattatccat	gtcatattgc	540
aaaagaaaag	gagaaagaac	aacacaatgc	tgcgtcaatt	atacatatct	gtatgtccat	600
cattattcat	ccacctttcg	tgtaccacac	ttcatatatc	ataagagtca	cttcacgtct	660
ggacattaac	aaactctatc	ttaacattta	gatgcaagag	cctttatctc	actataaatg	720
cacgatgatt	tctcattggt	tctcacaaaa	agcattcagt	tcattagtcc	tacaacaac	779

<210> 27

<211> 672

<212> DNA

<213> *Oryza sativa*

<400> 27

aattccttct	acatcggctt	aggtgtagca	acacgacttt	attattatta	ttattattat	60
tattattatt	ttacaaaaat	ataaaataga	tcagtccctc	accacaagta	gagcaagttg	120
gtgagttatt	gtaaagttct	acaaagctaa	tttaaaagtt	attgcattaa	cttatttcat	180
attacaaaac	agagtgtcaa	tggaacaatg	aaaaccatat	gacatactat	aattttgttt	240
ttattattga	aattatataa	ttcaaagaga	ataaatccac	atagccgtaa	agttctacat	300
gtggtgcatt	acaaaaatat	atatagctta	caaaacatga	caagcttagt	ttgaaaaatt	360
gcaatcctta	tcacattgac	acataaagtg	agtgatgagt	cataatatta	tttttcttgc	420
tacccatcat	gtatatatga	tagccacaaa	gttactttga	tgatgatatc	aaagaacatt	480
tttaggtgca	cctaacagaa	tatccaaata	atatgactca	cttagatcat	aatagagcat	540
caagtaaaac	taacactcta	aagcaaccga	tgggaaagca	tctataaata	gacaagcaca	600
atgaaaatcc	tcatcatcct	tcaccacaat	tcaaataatta	tagttgaagc	atagtagtag	660
aatccaacaa	ca					672

<210> 28

<211> 879

<212> DNA
<213> *Oryza sativa*

<400> 28
aagccttgccg gcggaatacgt gtggtggaga tgggttgagg accctggatt ccaaacacag 60
cccaagtcta tccaaaatgt ttagacaaga aaatacgtaa caagttgggt tacagaaata 120
gcaattagat caatcctgca ctacaagtag agtaaagtg tgatttctct taaatctctc 180
gaatggatgat ttaagaattc agtgcaaac aaatccttgc tataatcaaa tgttcggtac 240
cccatcaacg gaacaataaa aagcgcttgg ctaccataat tttgtcattc ttcttcaatt 300
tgtaatttaa gatgcatgag gccacacgac cttaatgttc aacgtgtcat gcattagtga 360
aataatagct caaaaaacgc aacaaatata gctagataac ggttgcaatc cttaccaaac 420
taacgtataa agtgagcgat tagtcatatc attatctccc gcctgctaac catcgtgtac 480
accatccgat caaaaaatga caacttctag ggatgaacct ggacaagggt taggggttag 540
ggatgaatct ggacaatgat tgttcagggt catccctaga tgttgcttcc tccttacggg 600
acggaggagg tatatgtgat ggacacaaaa gttactttca tgatgaaagg aaaggggatt 660
tgttggggca ctaatagaac atctgtccaa atggcatgac tcacttatat cctaatagga 720
catccaagaa aaactaacac tctaaagcaa ccgatgagga attgaaagaa aatacgtgcc 780
accgcatcta taaatggaca agcgcaatgg aaacctcct catcgttcac acagttcaag 840
cattatacag caaaatagaa agatctatgt ccagagca 879

<210> 29
<211> 883
<212> DNA
<213> *Oryza sativa*

<400> 29
ctgcaggagg gagagggagg agatgggtgag agaggaggaa gaagaggagg ggtgacaatg 60
atatgtgggc catgtggccc ccaccatttt ttaattcatt cttttgttga aactgacatg 120
tgggtcccat gagaattatt atttttcgga tcgaattgcc acgtaagcgc tacgtcaatg 180
ctacgtcaga tgaagaccga gtcaaattag ccacgtaagc gccacgtcag ccaaaccac 240
catccaaacc gccgagggac ctcatctgca ctggttttga tagttgaggg acccgttgta 300
cgtgggcttc caatcctcct caaattaaag ggccttttta aaatagataa ttgccttctt 360
tcagtcaccc ataaaagtac aaaactacta ccaacaagca acatgcgcag ttacacacat 420
tttctgcaca tttccaccac gtcacaaaga gctaagagtt atccctagga caatctcatt 480
agtgtagata catccattaa tcttttatca gaggcaaacg taaagccgct ctttatgaca 540
aaaataggtg acacaaaagt gttatctgcc acatacataa cttcagaaat taccacacac 600
caagagaaaa ataaaaaaaa atctttttgc aagctccaaa tcttggaac ctttttact 660
ctttgcagca ttgtactctt gctctttttc caaccgatcc atgtcaccct caagcttcta 720
cttgatctac acgaagctca ccgtgcacac aaccatggcc acaaaaaccc tataaaaccc 780
catccgatcg ccatcatctc atcatcagtt catcaccaac aaacaaaaga ggaaaaaaa 840
catatacact tctagtgatt gtctgattga tcatcaatct aga 883

<210> 30
<211> 877
<212> DNA
<213> *Triticum aestivum*

<400> 30
ctgcaggcca gggaaagaca atggacatgc aaagaggtag gggcaggga gaaacacttg 60
gagatcatag aagaacataa gaggttaaac ataggagggc ataattggaca attaaatcta 120
cattaattga actcatttgg gaagtaaaca aaatccatat tctgggtgaa atcaaactat 180
ttgacgcgga ttactaaga acgtcatagc atagatagat gttgtgagtc attggataga 240
tattgtgagt cagcatggat ttgtgttgcc tggaaatoca actaaatgac aagcaacaaa 300
acctgaaatg ggcttttagga gagatggttt atcaatttac atgttccatg caggctacct 360
tccactactc gacatggtta gaagttttga gtgccgcata tttgcggaag caatggcact 420
actcgacatg gttagaagtt ttgagtgcg catattttgcg gaagcaatgg ctaacagata 480
catattctgc caaaccccaa gaaggataat cactcctctt agataaaaag aacagaccaa 540

tgtacaaaca	tccacacttc	tgcaaacaaat	acaccagaac	taggattaag	cccattacgt	600
ggcttttagca	gaccgtccaa	aaatctgttt	tgcaagcacc	aattgctcct	tacttatcca	660
gcttcttttg	tggtggcaaa	ctgccctttt	ccaaccgatt	ttgtttcttc	tcacgctttc	720
ttcataggct	aaactaacct	cggcgtgcac	acaaccatgt	cctgaacctt	cacctcgtcc	780
ctataaaagc	ccatccaacc	ttcacaatct	catcatcacc	cacaacaccg	agcaccocaa	840
tctacagatc	aattcactga	cagttcactg	atctaga			877

<210> 31

<211> 1362

<212> DNA

<213> Zea mays

<400> 31

atggagcacg	tcatctcaat	ggaggagatc	ctcggggccct	tctgggagct	gctaccaccg	60
ccagcgccag	agccagagcg	agagcagcct	ccggtaacccg	gcacgctcgt	cggcagtgct	120
atagacgttg	ctgctgctgg	tcatggtgac	ggggacatga	tgatcagca	gcacgccaca	180
gagtggacct	ttgagagggt	actagaagag	gaggctctga	cgacaagcac	accgccgccg	240
gtggtggtgg	tgccgaactc	ttgttgctca	ggcgccctaa	atgctgaccg	gccgccggtg	300
atggaagag	cggtaaactat	ggcgccctgcg	gcggtgagta	gtgccgtagt	aggtgacccc	360
atggatagaca	atgccatact	gaggaggaag	ctggaggagg	acctcgaggc	cttcaaaatg	420
tgaggggcgg	actccagtg	tgtgacctca	gatcaacggt	ctcaaggctc	aaacaatcac	480
actggaggta	gcagcatcag	gaataatcca	gtgcagaaca	agctgatgaa	cggcgaagat	540
ccaatcaaca	ataaccacgc	tcaaactgca	ggccttgccg	tgaggcttgc	tactagctct	600
tcctcgagag	atccttcacc	atcagacgaa	gacatggacg	gagaagtaga	gattctgggg	660
ttcaagatgc	ctaccgagga	aagagtgcg	aaaaaggaa	ccaatagaga	atcagccaga	720
cgctcgagat	acaggaaagc	cgctcacctg	aaagaactgg	aagaccaggt	agcacagcta	780
aaagccgaga	attcttgcct	gctgaggcgc	attgccgctc	tgaaccagaa	gtacaacgac	840
gctaacgtcg	acaacagggt	gctgagagcg	gacatggaga	ccctaagagc	taagtggaag	900
atgggagagg	actctctgaa	gcggtgata	gagatgagct	catcagtgcc	gtcgtccatg	960
cccctctcgg	cgccgacccc	cagctccgac	gctccagtg	cgcgcgcgc	tatccgagac	1020
agcatcgtcg	gctacttctc	cgccacagcc	gcagacgacg	atgcttcggt	cggcaacggt	1080
ttcttgcgac	tgcaagctca	tcaagagcct	gcacccatgg	tcgtcgggtg	aactctgagc	1140
gccacagaga	tgaaccgagt	agcagcagcc	acgcattggc	cggggggccat	ggagctcatc	1200
cagacggcga	tgggatocat	gcccgcgacc	tccgcctccg	gatctacacc	gccgcgcgag	1260
attatgagct	gctgggtcca	aatggggcca	tacacatgga	catgtattag	gcactgcggg	1320
tttcgtgatc	gctgggaaca	ttttatttgc	aggcgctcgt	ga		1362

<210> 32

<211> 1314

<212> DNA

<213> Zea mays

<400> 32

atggagcacg	tcatctcaat	ggaggagatc	ctcggggccct	tctgggagct	gctaccaccg	60
ccagcgccag	agccagagcg	agagcagcct	ccggtaacccg	gcacgctcgt	cggcagtgct	120
atagacgttg	ctgctgctgg	tcatggtgac	ggggacatga	tgatcagca	gcacgccaca	180
gagtggacct	ttgagagggt	actagaagag	gaggctctga	cgacaagcac	accgccgccg	240
gtggtggtgg	tgccgaactc	ttgttgctca	ggcgccctaa	atgctgaccg	gccgccggtg	300
atggaagagg	cggtaaactat	ggcgccctgcg	gcggtgagta	gtgccgtagt	aggtgacccc	360
atggagtaca	atgccatact	gaggaggaag	ctggaggagg	acctcgaggc	cttcaaaatg	420
tgaggggcgg	cctccagtg	tgtgacctca	gatcaacggt	ctcaaggctc	aaacaatcac	480
actggaggta	gcagcatcag	gaataatcca	gtgcagaaca	agctgatgaa	cggcgaagat	540
ccaatcaaca	ataaccacgc	tcaaactgca	ggccttgccg	tgaggcttgc	tactagctct	600
tcctcgagag	atccttcacc	atcagacgaa	gacatggacg	gagaagtaga	gattctgggg	660
ttcaagatgc	ctaccgagga	aagagtgcg	aaaagaaagg	aatccaatag	agaatcagcc	720
agacgctcga	gatacaggaa	agccgctcac	ctgaaagaac	tggaagacca	ggtagcacag	780
ctaaaagccg	agaattcttg	cctgctgagg	cgcattgccg	ctctgaacca	gaagtacaac	840

gacgctaacg	tgcacaacag	ggtgctgaga	gcggacatgg	agaccctaag	agctaagggtg	900
aagatgggag	aggactctct	gaagcgggtg	atagagatga	gtcatcaggt	gccgtcgtcc	960
atgcccctct	cggcgccgac	ccccagctcc	gacgctccag	tgcgcgcgcc	gcctatccga	1020
gacagcatcg	tcggtcactt	ctccgccaca	gccgcagacg	acgatgcttc	ggtcggcaac	1080
ggtttcttgc	gactgcaagc	tcatacaagag	cctgcatcca	tggtcgtcgg	tggaactctg	1140
agcgccacag	agatgaaccg	agtagcagca	gccacgcatt	gcgcgggggc	catggagcac	1200
atccagacgg	cgatgggata	catgccgccc	acctccgcct	ccggatctac	accgccgccc	1260
caggattatg	agctgctggg	tccaaatggg	gccatacaca	tggacatgta	ttag	1314

<210> 33
 <211> 466
 <212> DNA
 <213> *Oryza sativa*

<400> 33	
tcttgcaaca	atgaagatca ttttcgtctt tgctctcctt gctattgctg catgcagcgc 60
cactgcgag	tttgcgtgtt taggtcaaaa tattaggcaa tatcagggtgc agtcgcctct 120
cctgctacag	caacagggtgc tttagcccata taatgagttc gtaaggcagc agtatagcat 180
tgcggcaagc	accttcttgc aatcagctgc gtttcaactg agaaacaacc aagtcttgca 240
acagctcagg	ctgggtggcgc aacaatctca ctaccaggac attaacgttg tccaggccat 300
agcgaccag	ctacacctcc agcagtttgg caatctctac attgaccgga atctggctca 360
agctcaagca	ctgttggtctt ttaacttgcc atctacatat ggtatctacc cttggtccta 420
tagtgacccc	gatagcatta ccaccttgg cggtgtcttg tactga 466

<210> 34
 <211> 997
 <212> DNA
 <213> *Zea mays*

<400> 34	
ggaaagatcc	atggacatga tctccggcag cactgcagca acatcaaacac cccacaacaa 60
ccaacaggcg	gtgatgttgt catcccccat tataaaggag gaagctaggg acccaaagca 120
gacacgagcc	atgccccaaa taggtggcag tggggagcgt aagccgaggc cgcaactacc 180
tgaggcgctc	aagtgccccc gctgcgactc caacaacacc aagttttgct actacaacaa 240
ttatagcatg	tcacaaccac gctacttttg caaggcttgc cgccgctatt ggacacatgg 300
tggtagcctc	cgcaatgtcc ccattgggtg tgggtgtcgc aagaacaaac atgcctctag 360
atgtgtcttg	ggctctcaca cctcatcgtc ctcatctgct acctatgcac cattatcccc 420
tagcaccaac	gctagctcta gcaatatgag catcaacaaa catatgatga tggtagccta 480
catgacgatg	cctaccccaa cgacaatggg cttattccct aatgtgctcc caacacttat 540
gccgacaggt	ggaggcgggg gctttgactt cactatggac aaccaacata gatcattgtc 600
cttcacacca	atgtctctac ctageccagg gccagtgcct atgctggctg caggaggag 660
tgaggcaaca	ccgtctttcc tagagatgct gagaggaggg atttttcatg gtagtagtag 720
ctataacaca	agtctcacga tgagtgggtg caacaatgga atggacaagc cattttcgtc 780
gccatcatat	ggtgcaatgt gcacaaatgg gttgagtggc tcaaccacta atgatgccag 840
acaactgggt	gggcctcagc aggataacaa ggccatcatg aagagcagta ataacaacaa 900
tgggtgatca	ttgttgaaac tctactggaa caagcacaac aacaacaaca acaacaacaa 960
caacaacaac	aacaacaaca acaacaaggg acaataa 997

<210> 35
 <211> 6227
 <212> DNA
 <213> *Oryza sativa*

<400> 35	
ggtacccatc	taatacatta ataacaagag agagaatgga taatgcaatt atttattttt 60
atgggaggct	atatttttat cggatttttag taaataacgg ggcaattcgg tacttaggta 120
aagctacgta	tgactatcgc taccgctacg gtagttgaat tgggaattctt cgatagcatc 180

tggtgtgttg	ttgcagttag	ggtacttgaa	tagctccagc	cgtgaaaacg	aggggttttc	240
gcaggtttta	taggattgcc	aagtttagact	agggcaattc	atgttcacgg	tattgtgtag	300
tatatgaaaa	aggagatctc	ccaaacaatt	tataattttg	tataagggag	aatcgaact	360
tgaggtgtct	aattcaccaa	ccgagctact	ccctccgttt	catatatgta	tatacatata	420
tacgtatata	tacgtatata	cacatatacg	tatatacata	tatggatatat	acatatatat	480
atatatatat	atatatatat	atgtgtgtgt	gtgtatgtgg	ggtggcaatg	ctaaaaagtt	540
ttataaatatg	aacggatgaa	gtactatcca	ctaagtccct	atagttttct	ggcactgtgt	600
agtatacgaa	tgcacaatta	tatccataaa	attgatatta	tatatcgctc	gcgacgaaaa	660
taaagacata	atattcggta	taccatttat	ccacgatata	tctaaattcc	actgatatat	720
ctaaattcca	cttgatccct	tttatggata	aattctggat	aacaattact	accagcagta	780
tatcctacta	tcagcgcact	gcacacccaa	ctaccctcac	ccagtagtta	caaacgcata	840
ttttgccgtt	agttaattat	tatccggtaa	agaaggtaaa	gaagattggt	agtaatccaa	900
aattttccca	accccaacct	cggaacaaaa	accgcgtagt	atttgctgta	accaggagca	960
tccgagtcac	taatttacac	ccaaacacaa	aaaatttagca	gcacgcagcc	gccttcccaa	1020
tcctctcctc	tctcctctcc	tcttctccaa	gcggcaattc	gcgcgagggt	ttctccgatc	1080
aaaccctcga	atccccccct	cgcgaatcca	tcggagggtg	gccccgcgat	ccgcgtcggc	1140
gagagcggat	tccgattccg	cgatggagcg	ggtgttctcc	gtggaggaga	tctccgacct	1200
attctgggtc	ccgcctccgc	cgcgcagctc	ggcggcggcg	gcccagcagc	agggcggcgg	1260
cggcggtggc	tcgggagggt	gtgggtgggt	agcggggggc	ggcggcggcg	ggaacgcgat	1320
gaaccgggtc	ccgtcggagt	ggtacttcca	gaagtttctg	gaggaggcgg	tgctcगत	1380
ccccgtcccg	aaccttagcc	cgaggggcga	agcgggaggg	atcagggggc	caggaggggg	1440
ggtgccggtc	gatgttaagc	agcgcagctc	ctcggcggcg	gcgacgacga	gcgcggtggt	1500
ggaccccggt	gagtacaacg	cgatgctgaa	gcagaagctg	gagaaggacc	tcgcgcgggt	1560
cgccatgtgg	agggtacagc	cattctcccc	ccctctagta	ctcgagagct	tactgagatc	1620
ggcaatgcta	gctactgttt	gcategaatg	tttataggtg	tttagatcgg	gcatttctat	1680
agaccaatgg	cgtccatggt	cttgcaatgc	gctctgttga	gtgtcggtgg	ttggttcgac	1740
tcatagtatg	taggggtgtg	cgtatgtaca	aacggaagct	tcatagacct	cggatttgag	1800
attgcgatat	cgatgcaacc	tgcgaattgg	cgatgtaatc	agtcatatct	ttactaaact	1860
gcgagacagt	ggtttgtttg	caattgcaat	atttttgtat	ggggctgctt	aaactgtcat	1920
tgccctttta	gattggcaat	atgtgacttt	atgcaagtat	ttgattgggc	ggatccagga	1980
acaaaaagtt	ggggggattc	aacataccga	gtacactggc	ataaacacat	catctcagta	2040
ttaaaactatg	ctaaaatgct	attaagagac	ctttagcacc	tcttatctta	tcaaccattg	2100
tgaaaaaatt	gaagggggga	ctcagggggg	tatccatggg	tcgatgggtg	gcagggggga	2160
ctgagtcccc	cctgcaccca	cgttgaatcc	gccttggcat	gcgtataagc	tgtcacagcc	2220
atttctaggt	gcttgtgctt	agttgggtga	tgtcagctta	atttgtcttt	tctatgtcgt	2280
catcgatttt	ctaagaaaacg	aaaaatagcc	tatttatgtg	ctccagaatt	tgatgatccc	2340
tgccctttca	tttgctgaaa	ttagcctatt	tgttggttgc	ccttcagttt	tttcccagct	2400
tatgttgttg	caatgtgtgg	ctatgcctcg	ttttgtgccc	tataatttat	tatttgcaat	2460
tcatttttgt	acatgactta	aaatgacact	agagcaacat	gcactgattg	gttatcctat	2520
aatcattttat	gtagtctctg	tcatttttatc	atgctagctc	atgtcatttt	catcttcagg	2580
cctctggcac	agttccacct	gagcgtcctg	gagctggttc	atccttgctg	aatgcagatg	2640
tttcacacat	aggcgctcct	aattccatcg	gaggtactta	tcttatctgg	ttacattttc	2700
agattgttat	gaaactaccc	aaatatcctg	cacaattgca	tgggattaaa	ttttagtttc	2760
tttgaaatag	aagtagagtt	gtattgctgt	cacgtcatca	aatagttctg	aagctatgaa	2820
tataataagtt	ccgcatttgt	tagtgattct	ttgaacatta	gaattgttat	gcttaagtag	2880
atagggttat	gtttgtttgg	agttccctta	aatcatttca	ttgctgactg	ccagctggca	2940
ggagcatttg	ttgttgccct	gacctgaat	gaagaccttc	ctgttctgag	tgctcacaa	3000
aaaacatatt	ttgattaatg	caccttgaat	ccttaggata	ttgcaaagat	gggcacttag	3060
ctttagaatt	gagtagtact	taaatagctg	ttgttatcat	gatttgtcct	gtagtgaat	3120
gtcgacaaaa	caggaatgct	acttttgact	tctgatattt	catgcctggc	tttacttatg	3180
ctctgttttg	aacatgggca	catatcaggc	aatgctactc	cagttcaaaa	catgctaagt	3240
ggcccaagtg	ggggatcggg	ctcacagttg	gtacagaatg	ttgatgtcct	tgtaaagcag	3300
cccaccagct	cttcatcaag	ggagcagtc	gatgatgatg	acatgaaggg	agaagctgag	3360
accactggaa	ctgcaagacc	tgctgatcaa	agattacaac	gaaggtgatc	attcattgct	3420
tccttgtaat	atagattctg	tacataatta	acctacctcg	tcattgcattg	atgtgtccta	3480
ttttcacctt	agccctttca	gttggtattc	cactttcact	cggtagcctt	tcagtttcc	3540
attgcacgcg	atatatgatc	ttttacctac	catattagtt	ctctgtgtgc	catactcagt	3600

gottagtgtc	tcgagcaaga	gaggaatttg	tatggctatt	acacgtagca	ctttgctctc	3660
tacttgttta	ttgacataag	caatttggga	tgaattaaat	ctgagttcac	atcatattcc	3720
ttatgtcaca	agtttctgaa	accgattgta	tctagtatct	ggttgatgca	ccccatctt	3780
ggatttgcaa	atcaaaagta	tactccctag	agagctttac	ctttcataaa	gcaattaccc	3840
caataaacca	cggatttgat	agctattgac	tatgattacc	agaattcatt	tggcagctat	3900
tttctcaatt	taagtttggt	attagtctca	gttggctgta	aaataatgtc	acggtagggg	3960
acatgtatgt	gcagcataca	aggtatgggt	gagttatgat	atggacagtg	tgtacacccc	4020
acatttgctc	actaaaatca	aaatattcaa	acgtcacgtg	atgatatggt	ggattgcatt	4080
ataccttgta	ttgtttatta	tgttacttgt	gctagacaat	aatatagggt	gttcttttgg	4140
gtgattttgt	atgaagatgt	tgagcaagca	cttctcgata	taatgctagt	tttgttgacc	4200
tgttccagga	agcaatccaa	tcgggagtc	gccaggcgct	caagaagcag	aaaggcagct	4260
cacttgaatg	agctggaggc	acaggtgtga	tagttcacat	agttattttc	gataagacat	4320
aaaatcctaa	attactggct	actgacttca	gttatggatt	tacttggtac	aggtatcgca	4380
attaagagtc	gagaactcct	cgctgttaag	gcgtcttgct	gatgttaacc	agaagtacaa	4440
tgatgctgct	gttgacaata	gagtgctaaa	agcagatggt	gagaccttga	gagcaaagg	4500
atgctatata	tgccttttgc	aatatgcctc	ccatggattg	ctactttggc	ttgtttcaaa	4560
ctttcaacgt	gacttgtgta	ccctgttatt	agaagaataa	tcccgcctac	cattatactc	4620
tataaatcac	catttggcca	gtccaaacat	gattattaaa	tcaggatcaat	ctgaacattg	4680
aaatgtatca	aaaattcgca	ggtgaagatg	gcagaggact	cggatgaagc	ggtgacaggc	4740
atgaacgcgt	tgtttccgcg	cgcttctgat	atgtcatccc	tcagcatgcc	attcaacagc	4800
tccccatctg	aagcaacgct	agacgctgct	gttcccatcc	aagatgaccc	gaacaattac	4860
ttcgctacta	acaacgacat	cggaggtaac	aacaactaca	tgcccgacat	accttcttcg	4920
gctcaggagg	acgaggactt	cgtcaatggc	gctctggctg	ccggcaagat	tggccggcca	4980
gcctcgctgc	agcgggtggc	gagcctggag	catctccaga	agaggatgtg	cgggtgggccc	5040
gcttcgtctg	ggtcgacgct	ctgagaccga	aaccagagc	tgcttcgggt	ctgaaagaca	5100
ctgcgagcag	gaaatgatga	ttggacaggc	gtagacattg	ctaattgctg	gaggttgatg	5160
attgtttggt	gtcgtcgctg	tcatttgtga	ttctttgtaa	gggacacctc	ttagtaccct	5220
cttcttctaa	gggacttagt	accccttggt	gatctcatcg	tcctaaatac	tatacacatt	5280
agccaaatgt	tcattgggtg	gatggcgctg	tccttaattt	gaacgactga	tttcaggcag	5340
ctgctatgct	atcattcaat	aatattttga	tcgatgcttc	ctcttgctct	ttgctcttaa	5400
gcaaccaagc	ataaagatat	cactaccttt	tgagctgttc	atttgaagtg	caaagctaag	5460
ctcaatatct	caggtgttca	tttgaagttt	aaaggatgaac	tgataacaaa	cgtcaggcta	5520
tggtgaatga	agggacgtgt	acatccctaa	tacatgtcat	tttcataatc	aaattagttg	5580
atgcattttc	accagaatc	ccatcacagt	tcatacatca	agcaagtgtg	gttattaatg	5640
gtaaaatttt	cgttttagaga	aaaaaaaagg	aagccttata	taagattcac	cgggtgggtg	5700
tgaacaataa	tcaatgaatg	agatcgcatc	ccgtaagggc	agcctagcta	gacaaaaatg	5760
cataaaactc	cgtataccaa	ccacaacaac	gcttgccgac	gcgctcaaat	ggcagcgact	5820
tcctcgcttt	cgcgggcaag	aaacgaatca	agtatacat	tggcagggaa	ccaccaaaaag	5880
aaggccatcc	aatccaatcc	actccaacgc	ggcatggaag	acaagacaga	tgattcacag	5940
ctatcttctg	cttctacaag	tttgatactt	tgtactgtcc	tttcagggaa	aaaagagcat	6000
cagatttagtc	tgatctcggg	cgcgttgagt	tcttgtggga	gatcttggtg	tggagtggca	6060
ggagtgcaga	tcggctgccc	cgtttttctt	taccgaaaca	tcgccagtaa	agaagccaaa	6120
aagacaataa	tacggcaatg	gggatcgccc	atctgcataa	aacattgcat	gacggaactg	6180
attaatacaa	gaatgacatg	taagctgata	attacgcgtg	caagctt		6227